INSECTS AS PRECURSORS OF THE PLAGUE

With so much superstition connected with the plague, and with outbreaks regularly taking place every ten or twenty years from the fourteenth to the seventeenth centuries, it is no wonder that people were continually looking for the signs that preceded such attacks and interpreting various happenings as forerunners of the events. In addition to certain positions of the planets, the appearance of comets, earthquakes, eclipses of the sun and moon, floods, heavy fogs, volcanic eruptions, shooting stars, tempests, the failure of crops, etc., outbreaks of insects also, were looked upon as precursors of the plague.

Cowan[1] cites Paulus Orosius as authority for the statement that, "In the year of the world 3800, . . . such infinite myriads of locusts were blown from the coast of Africa into the sea and drowned, that being cast upon the shore in immense heaps, they emitted a stench greater than could have been produced by the carcasses of one hundred thousand men. A general pestilence of all living creatures followed. And so great was this plague in Numidia, where Micipsa was king, that eighty thousand persons died; and on the sea-coast, near Carthage and Utica, about two hundred thousand were reported to have perished." Kirby and Spence[2] mention St. Augustine as saying that a plague arose in Africa from the same cause, resulting in the deaths of some 800,000 persons in the kingdom of Masanissa. And there are other records of the plague following invasions of locusts (and famine caused by the locusts) in France, Italy, Spain, Poland, Germany, etc. It was thought that the plague was due to the stench arising from the rotting bodies of the millions of grasshoppers.

In 1346, locusts and white mice announced the plague in Germany, and, "In 1478 the whole of Latin Europe was plagued by locusts which devastated everything, gardens, meadows and fields, after which a great epidemic came into the land, and in Venice alone there died more than 300,000 persons." Additional por-

[1] Curious Facts in the History of Insects, Phila., 1865.

[2] Introduction to Entomology, London, 1859.

tents were, "Unusual insects, strange worms, big-bellied toads, unknown frogs with tails with which the medical men of the period were not familiar, large quantities of all kinds of beetles, large, black vineyard moths, large spiders, gnats 'of uncanny shape and color.' "[3] When fruit and legumes became wormy, when the webs of spiders were unusually plentiful in the woods and when insects were observed on the snow, and when many other things happened--they were all thought to be signs of an approaching epidemic, so apprehensive were the people at that time.

Abraham a Santa-Clara (1681), writing of the plague in Vienna, mentions various signs that precede an outbreak and says, "Earth signs are unusual lack of fertility of the soil and failure of the crops of trees, the fields, and the vineyards, also the earthquakes; further when in the autumn the spring flowers and herbs once more grow green and flower, when the multitude of locusts, beetles, vineyard moths and mice devour the fruit of the earth everywhere."

Although it was not until 1894 that the plague bacillus was discovered, Father Kircher's writings (1659), as reported by Johannes Ammianus in 1667, hint at a bacterial origin. "Thus he writes that the plague is nothing but a multitude of small animals and diminutive worms which fly about in the air, and when drawn into the body by the action of breathing they vitiate the blood, impair the spirits, and finally gnaw into the flesh and glands. When they fly from an infected body, or, in some other manner, are received by a healthy subject, the plague is spread by them. Protection against them could be obtained by lighting large and flaming fires by means of which their wings, feet, or probosces, etc., are burnt off, so that they can no longer fly about and vitiate the blood of human beings and gnaw their bodies." Johann Georg Nicolai Dietrich (1714) thought that Kircher was making fun of Hippocrates and his method of setting fire to forests in order to burn the wings of "plague insects," but other physicians supported Kircher's views and some held that the contagious matter was confined to the air surrounding the patients.

[3] The Black Death by J. Nohl (translated by C. H. Clarke, London, 1926).

It is now known that the bubonic form of the plague is, in most cases, transmitted by the flea. The pneumonic form, a less important type, is spread without any interagent and during coughing, plague bacilli are expelled into the air.—H. B. WEISS.

PIERRE EUGENE DU SIMITIERE, EARLY NATURALIST

Mr. Alexander Stuart Graham has recently called my attention to a paper by Mr. William John Potts, entitled "Du Simitiere, Artist, Antiquary, and Naturalist, Projector of the First American Museum, with Some Extracts from His Notebook," which was printed in the *Pennsylvania Magazine of History and Biography,* Vol. XIII, No. 3, Oct., 1889, pp. 341–375. Born in Geneva, Du Simitiere visited the West Indies about 1750 and collected botanical specimens, coins, shells, and made water-color drawings for ten years. He arrived in New York about 1764 or 1765 and then went to Burlington, N. J., and finally to Philadelphia in 1766. He was a member and one of the curators of the American Philosophical Society and during the Revolution he drew the portraits of many distinguished men of that time. His "American Museum" was located on Arch Street, above Fourth, in Philadelphia, and contained collections of "books, engravings, water-color sketches, coins, fossils, Indian relics and general antiquities." It is stated that this museum antedated Peale's Museum and that Du Simitiere's pictures, Indian relics and natural history specimens formed the basis of Peale's Museum.—H. B. WEISS.